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EXAMINER
MEHRA, INDER P

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 05/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _Amendment dated: 2/1/02_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-33_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,2,4-7,9-14,16-19,21,23-30,32 and 33_ is/are rejected.

7)☒ Claim(s) _3,8,15,20,22 and 31_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

　　If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　　a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Claim Objections

1.   Claim 27 is objected to because of the following informalities:

Regarding claim 21, line 5, refer to limitation "on encoded block", it is not clear

what is meant by this limitation.

Appropriate correction is required.

Specification

2.   The disclosure is objected to because of the following informalities:

Refer to page 17 line 5. Words "can be" repeated.

Appropriate correction is required.

Drawings

3.   Figure 3 should be designated by a legend such as --Prior Art--, refer to specification

page 8 line 11, because only that which is old is illustrated. See MPEP § 608.02(g). A proposed

drawing correction or corrected drawings are required in reply to the Office action to avoid

abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1, 2, 4-6, 13-14, 16-18, 27, 29-30, and 33, are rejected under 35 U.S. C. 103(a) as being unpatentable over **Franaszek et al** (US Patent No.5,729,228), hereinafter Franaszek in view of **Bigham** (US Patent No.5,544,161).

Regarding claims 1,13, 27, and 29, Franaszek discloses, in reference to figs. 1, 2 and 3, a method for parallel compression and decompression, refer to col. 2, lines 35-47, comprising:

Franaszek discloses, in reference to fig. 2, col. 2 line 51, the following:

-       bitstream separated into blocks (b 1 221, b2 222, b3 223 and b4 224, called components);

-       uses compression algorithm (col 1, lines 36-39) and encodes the blocks using compression algorithm (refer to col. 3, lines 25-27 and 62-64);

-       in fig. 3, the compressed block is divided into sections by the splitter 330 (separating packets from the packetized bitstream);

-       illustrating how a previously compressed block 260 is decompressed using parallel decompression, refer to col. 3, lines 16-17 and further, illustrates in fig. 7 parallel decompression and decodes the packets , refer to col. 5, lines 33-45;

-       updating the corresponding portions (constructing the plurality of components from the recovered encoded data), refer to col. 5, lines 55-57; and

-       consolidates the components via output data combiner841 in fig. 8

(combining the plurality of components to recover the bitstream).

Franaszek does not disclose expressly, scan lines, as recited by claim 27, a packet comprises header information and encoded data; and combining the packets into a packetized encoded bitstream;

Bigham discloses digital encoder MPEG-2 118, fig. 2, and transport stream packet (bitstream packet) which consists of header section and payload section and are identified by program identification number (packet comprises header information and encoded data), refer to col. 10, lines 59-64 and col. 11, lines 32-40. Further, Bigham discloses combined ATM bitstream before transport to ATM edge multiplexer120 or SONET MUX122, refer to fig. 2 and refer to col. 11, lines 50-53.

A person of ordinary skill in the art would have been motivated to employ Bigham's video distribution network into Franaszek's parallel Compression and Decompression in order to have packets used for parallel compression and decompression. The suggestion/ motivation to do so would have been obvious to have ATM packets which provide greater flexibility in enabling MPEG-2 encoding. Further, it is obvious to a person of ordinary skill in the art to understand that scan lines inherently include pixel which inherently include components, as recited in specifications, refer to specification page 17 and lines 7-8.

Regarding claims 2, 4, 14 and 16, Franaszek does not disclose bitstream digitized graphics or video frame; and the digitized graphics and video frames for display.

Bigham discloses graphics and video information in digital signals, refer to col. 4, lines 35-40, and col. 23 line 15; and digitized graphics and video for display, (refer to col. 31, lines 414.

A person of ordinary skill in the art would have been motivated to employ Bigham's video distribution network into Franaszek's parallel Compression and Decompression in order to provide video and graphics in digital stream to facilitate parallel compression and Decompression. The suggestion/ motivation to do so would have been logical to have ATM packets which provide greater flexibility in enabling MPEG-2 encoding.

Regarding claims 5, 6,17 and 18, Franaszek discloses encoding the components using Lempel Ziv compression (Lossless compression algorithm), refer to col. 1, lines 35-38.

Regarding claim 30, Franaszek does not disclose expressly pixel as component of each block;56-67

Bigham discloses pixels as part of encoded data1410, refer to fig. 14A and refer to col. 34 lines 36-67;

A person of ordinary skill in the art would have been motivated to employ Bigham's video distribution network into Franaszek's parallel Compression and Decompression in order to provide video and graphics including pixels in digital stream to facilitate parallel compression and Decompression. The suggestion/ motivation to do so would have been logical to have ATM packets which provide greater flexibility in enabling MPEG-2 encoding.

Regarding claim 33, Franaszek discloses, in reference to fig. 11, computer memory 1130, 1140 and 1150 containing uncompressed and compressed format, and computer system with cache memory exchanging messages, sharing data, and memory management , refer to col. 6 lines 56-67 through col. 7 lines 1-16.

6.   Claim 28 is rejected under 35 U.S. C. 103(a) as being unpatentable over **Franaszek et al** (US Patent No.5,729,228), hereinafter Franaszek in view of **Bigham** (US Patent No.5,544,161), and further in view of **Kuzma** (US Patent No. 5,389, 965), hereinafter Kuzma.

Regarding claim 28 , Franaszek and Bigham do not disclose expressly lossless compression comprises differential pulse code modulation;

Kuzma discloses explicitly lossless compression comprises differential pulse code modulation, refer to col. 9 lines 21 and 35-37;

A person of ordinary skill in the art would have been motivated to employ Kuzma,s video telephone station having variable image clarity and Bigham's video distribution network into Franaszek's parallel Compression and Decompression in order to combine lossless compression algorithm comprising differential pulse code modulation with the technique of compression and decompression algorithm. The suggestion/ motivation to do so would have been logical to have loss less compression algorithm comprising pulse code modulation.

7.   Claims 7, 9-12, 19, 21, 23-26 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Franaszek et al** (US Patent No.5,729,228), hereinafter Franaszek in view of

Bigham (US Patent No. 5,544,161) and **Schwartz et al** (US Patent No. 5,717,394), hereinafter

Schwartz.

Regarding claims 7, 10, 19 and 23, Franaszek does not disclose expressly constructing

packets from the encoded components include both variable length and fixed length packets.

Schwartz discloses both variable length codewords (16 packets,fig. 4), refer to col. 28,

lines 51-54, and fixed length packets , refer to col. 28, lines 56-57.

A person of ordinary skill in the art would have been motivated to employ Schwartz's

apparatus for encoding and decoding data into Franaszek's parallel Compression and

Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation

to do so would have been logical to remove bit level manipulation of the data stream and thus

increase the speed of processing by parallelization method.

Regarding claims 9 and 21, Franaszek does not disclose expressly distribution of packets

to separate decode units in order.

Schwartz discloses, in reference to fig. 2A, where in buffer 204 supplies coded data to

decoder units 205 in a predetermined order. Decoder unit includes multiple decoders.

A person of ordinary skill in the art would have been motivated to employ Schwartz's

apparatus for encoding and decoding data into Franaszek's parallel Compression and

Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation

to do so would have been logical to remove bit level manipulation of the data stream and thus

increase the speed of processing by parallelization method.

Regarding claims 11, 12, 24 and 25, Franaszek does not disclose expressly header

information including tag; and distribution of packets to separate decode units on the basis of tag.

Schwartz discloses, in reference to fig. 3, a preface header containing pointers (tag) to the

beginning of bit location of each bit stream ,refer to col. 8, lines 21-22; and retrieval of packets

from the proper location via proper pointer (tag), refer to col. 8, lines 29-31.

A person of ordinary skill in the art would have been motivated to employ Schwartz's

apparatus for encoding and decoding data into Franaszek's parallel Compression and

Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation

to do so would have been logical to remove bit level manipulation of the data stream and thus

increase the speed of processing by parallelization method while maintaining efficiency of

compression and decompression..

Regarding claim 26, Franaszek does not disclose expressly queue to receive packetized

encoded data in bitstream .

Schwartz discloses the use of queue to allow ordered data stream, refer to col. 19 lines

59-64.

A person of ordinary skill in the art would have been motivated to employ Schwartz's

apparatus for encoding and decoding data into Franaszek's parallel Compression and

Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation

to do so would have been logical to remove bit level manipulation of the data stream and thus

increase the speed of processing by parallelization method while maintaining efficiency of

compression and decompression.

Regarding claim 32, Franaszek and Bigham do not disclose expressly scan line as HDTV line.

Schwartz discloses HDTV as excellent choice for the system of his invention, refer to col. 56 and lines 25-35;

To a person of ordinary skill in the art, it is obvious to have scan line comprising HDTV line in HDTV system. A person of ordinary skill in the art would have been motivated to employ Schwartz's apparatus for encoding and decoding data into Franaszek's parallel Compression and Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation to do so would have been logical to include HDTV system application into video distribution network. It would have been obvious to a person of ordinary skill in the art to use decoding system coupled to compressed image data system in order to provide transformation and sub-sampling portion of HDTV decoder.

Allowable Subject Matter

8.   Claims 3, 8, 15, 20, 22 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9.   Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

.   In remarks by applicant, refer to page 5, the applicant argues that "Suver" reference relied upon by the examiner teaches nothing of encoding pixels or data containing pixels. In response,

it is stated that Franaszek et al and Bigham references, instead of Suver, as mentioned by applicant, were relied upon as prior art to reject claims 1 and 13. Suver was not used as prior art reference. Further, applicant argues that examiner has not properly construed the phrase "component" and proper construction of the phrase "component" would overcome the art of record. In response, it is stated that components (data) constitute pixels, pixels (data) constitute scan line and scan lines constitute bitstream (data). Subsection of pixels is component which implies sub-block of data. Franaszek et al discloses component or sub-block, refer to col. 2 line 51. Further, Bigham explicitly discloses video distribution network, refer to abstract and col. 7 lines 50-59, and further discloses MPEG encoded data, refer to col. 8 lines 7. Bigham also discloses explicitly pixels as part of video frames, refer to col. 31 lines 35-37. Schwartz discloses explicitly pixels as data , refer to col. 34 lines 56-67 and col. 37 lines 10-22.

Conclusion

10.   Any enquiry concerning this communication should be directed to Inder Mehra whose telephone number is (703)305-1985. The examiner can be normally reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Chau Nguyen, can be reached on (703)308-5340. Any enquiry of a general nature of relating to the status of this application or processing should be directed to the Group receptionist whose telephone number is (703)305-4700.

Inder Mehra 5|1|02

April 30, 2002

MELVIN MARCELO
PRIMARY EXAMINER